Detroit March 20th 1865

My dear Doctor

I received your few lines of the 15th inst and with pleasure hasten to answer to the best of my knowledge & belief. I remember finding the Callitriche in California, but did not see it on the Canadian Samuel Pass is on the opposite side of the bay from San Francisco and is rather a low mountainous region although at the point where the bay faces on the east & the Pacific on the west.

Markwests Creek is a small affluent of the Russian river above the bay of Bodega. The place I visited it was not very far from the Coast some 15 or 20 miles northwest of Sonoma & probably 90 or a 100 miles north of San Francisco. Marshes and ponds were very common in all that region although there were some highlands in the vicinity.

I did not study my plants there and therefore did not distinguish them from the common Callitriche verna. By reference to my notes I find I made no remarks regarding the Callitriche.

Respectfully yours

J. M. Bigelow

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Ans: June 22d
Ans: July 25

Detroit June 19th 1865

Dear Doctor.

Yesterday being the first holiday since I received your letter I proceeded at once to "Bloody run" in quest of Nuttalls Nymphaea Alba but I found only the prominent veined highly odoriferous N. Odorata in full bloom. It is abundant every where in this neighborhood I believe. Do you want specimens of it? I will in the course of a day or two visit various localities to see if the N. Alba can be found.

I see by Prof. Winchell's & others reports of Michigan plants that 3 species of Isoetes grow here but I never collected and do not know exactly how to look for it Is it among the Potamogetons and aequatics of that class? From the figure in Grays Man. it looks as if it grew in the mud.

If I am successful in detecting N. Alba I will write again soon

I am most Respectfully
Yours,
John H. Bigelow

Dr. Geo. Englemann

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GEORGE ENGELMANN PAPERS

Rec'd July 9th
Ans July 12

Office Lake Survey Detroit July 6th 1865

Dear Doctor.

Day before yesterday being the glorious 4th I vented my patriotism in exploring Connors Creek which empties its sluggish & stagnant waters into the Detroit river about 6 or 7 miles above the City. It is full of aquatic plants. I find the same Nymphaea there as at Bloody run near the city but it is not always fragrant and the Boston Bigelow says, the fragrancy is very fugacious. I have collected specimens of it with roots or prostrate rhizoma. Nuphar lutea and Advena both grow here. Torrey & Gray say they may not be Distinct. I disagree with them. The flower the leaf & the petiole are very distinct & I think there is a difference in the Stigma especially its rays. The fruit resembles each other very much - But I have no doubt the rays of the Stigma & cells of the fruit correspond in which case there will probably be a corresponding difference in the fruit. As I attempted to get the root of the Advena at Connors Creek but their roots were so Solidly anchored in the bottom of the deep water that it was impossible. Have you studied

and elaborated them? I think they need it as much as the Nymphaeas — In all my rambles I have not yet found either Isoetes or Callitriche

I send herewith a printed list of plants got up by Austin for convenience in botanizing. They are made up of such as are said or are supposed to grow in Michigan. Winchell in his list does not mention either Isoetes or Callitriche.

I am most Respectfully yours &c

Wm H. Bigelow

Dr. Englmann

Please acknowledge the receipt of the list so I may know if you get it

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Rec'd July 31st
Ans Same day

U. S. Lake Survey.

Detroit July 28th 1865

My Dear Doctor.

I suspect I have committed a Fox Paw on the Naphar question but as it is not of much importance I will leave it for another time. But in looking for the Callitriches & Isoetes's I have to fish among the water nymphs the Frog bits and Lindleys Hydral alliance pretty generally and to do so with any tolerable chance of success I am obliged to study out the ~~Naiads~~ Naias Zannichella & Potamogetons &c. In doing so I have become puzzled exceedingly Please assist me with the little fragments enclosed. Zostera and its allies for which Lindley has created a Separate family are all Salt-water-ites. But this little plant with the exception of the Pollen which is in grains (not thready & confervoid like Zosteraceae) and its Marine habitat resembles it very closely in every thing else. If you can find a "name" for him I with the "habitation" - I dug 3 stamens out of a closed sheath in the axil of a leaf the only one which I have found & which I send. The fructifications are plenty & easily found.

When I first noticed it without the inflorescence I thought it was a Potamogeton. Growing in the water it almost exactly resembles some of the narrow grass like leaved ones

I am most Respectfully yours
John M. Bigelow

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GEORGE ENGELMANN PAPERS

Rec'd Aug 7th

Detroit Aug 4th 1865

Dear Doctor.

Yours of the 31st ult is just received. With regard to the Naphas the story is too long to tell now. I will briefly explain how I was bamboozled.

On first visiting Connors Creek I found two Nuphars and took a specimen or two to examine.

The petioles and lobing of the leaves were quite different yet they both very much resembled the advena so common in Ohio. But among those with nearly ~~round~~ terete petioles and spreading lobes of the leaves there was a flower with 5 Sepals & streaming Torrey & Gray who put Kalmiana as a variety only I concluded certainly that it must be Luteum & the other the advena After consulting Grays Manual whose diagnostics are not much better than the old Flora and his observation that he had not seen N Luteum in the U.S I again concluded it must be rare. — I then wrote you & him also immediately before collecting further. On since finding them in different localities I am satisfied that the somewhat triangular petioled one is the Kalmiana & the other the advena Enclosed I send some sections roughly sketched from the stem itself at different lengths from the base

What is this I send. It is too fibrous & tough to be Potamogeton or can it be the everlasting Schollera?

If you examine closely the specimens in paper you will find something like a rachis as though the fruit of a Potamogeton had dropped off.

I will send you full specimens as soon as they are dry enough to go with safety

Most Respectfully yours &
Most Obt John M. Bigelow

(It is Potamogeton perfoliatus)

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

No 1 Sept 30th

~~Detroit~~ Sept 27th 1865

My Dear Doctor

This must be a sort of letter of apology For the last six weeks I have been overwhelmed in the Office. The annual report of the survey has to be ready by the 1st of October ult. I have for an Assistant in making the computations for the abstracts of 13 meteorological Stations a son who was taken sick some two months ago and until the last week or two was unable to do his share of duty in the Office. His place being quite subordinate in order to retain it I was obliged to do his work in addition to my own. The anxiety to not be behind hand with our duties has kept my mind so hindered with the details of the Office that I had not time even to pack up & send you what "botanical hay" I had previously collected for you much less make new collections. My report much to my gratification will I hope be off hands this week. I will in a day or two send a considerable lot of Stuff to you by mail.

I received a letter a few days ago from John A. Paine Jr. of Utica New York enquiring about our Nymphaeas. He says in the Central & Southern part of New York they have the N. Jenneri &c but in Western N.Y. from Oneida Lake to Lake Ontario it is replaced by a New Species N. tuberosa. In hunting for the fruit & seeds by pulling the loosely bedded Rhyzoma from its bed I find plenty of the tubers he speaks of already throwing out its rudiments of leaves. They rise to the surface immediately on being broken from its parent stem. This is the principal mark characterizing it from N. Odorata. The correspondence of the peculiarly acuminated & pointed lobes of the leaves with that figured in Jacob Bigelow's Medical Botany leads me to believe that this N tuberosa is only a variety of N. Odorata. I will send a rhizomaa & some tubers in my lot. —

I received Parry's paper and your notes some
time ago but had not time then to acknowledge it.
With regard to our old friend E. P. Austin
I just learn that he is in the Nautical Almanac
office Cambridge. His old associate Wheeler tells me
now he expects him home in a day or two, probably
to stay the winter. —

Yours in haste

J. M. Bigelow

P. S. Parry's Impedicta must something pulty.
Look out soon for that load of hay

MISSOURI BOTANICAL GARDEN
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Rec'd Oct 9

Detroit Oct 6th 1865

Dear Doctor

I send by this mail put up as cuttings some Nitella — a single capsule of Nymphaea Odorata var. tuberosa and a couple of the tubers — The capsule and Nitella are fresh from the water obtained from the river at the mouth of Bloody run. — I think if you keep the fruit of the Nymphaea immersed in water for 3 or 4 weeks it will mature & ripen the seeds — I have great difficulty in getting the fruit — this is the second one I have to you obtained — I am a going to try again today. I send the Nitella fresh also so that you can get to see the circulation.

Austin has returned — He is at the present writing with his family some 40 miles from the city. He will be in town again in a day or two when I will enquire what he has been doing down East among the Yanks

Most Respectfully yours

John M. Bigelow

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Ans: Oct 26th
Rec'd Nov 2d

Detroit Oct 24th 1865

Dear Doctor

By this mail I send some marish and aquatic plants gathered in this vicinity the present summer they are badly preserved in consequence of my not having time to attend to them properly. The Nuphars especially would mould in spite of all my endeavors they may however be of some account to you The leaf of No 1 Nuphar labelled "Grand Marais" must have been gathered at the Park Marsh - I labelled them often I came home & could easily have made the mistake. I am inclined to this belief from the following considerations. — The Park Marsh is between the City and the Grand Marais. I noticed when I passed it on the 4th of July to visit the grand Marais at the Mouth of Connors Creek the great quantities of the nuphar its oval leaves dilated sinus rounded petioles &c. but collected none on going. — When I came to the Grand Marais I was struck with the difference in appearance of the two — The one at the grand Marsh had floating leaves a closed sinus and triangular petioles. — I then began to collect to compare the two. - The very large closed-sinus leaf of the Grand Marais plant put the idea of N. Kalmiana (which I had never seen) entirely out of my head when finding a fine expalled flower at the Park Marsh I concluded it was the N Lutea and the other N. advena I wrote you to collect to that effect. The Belle Isle plants have a very slender petiole and thin leaf but in all other respects they very much resemble the grand Marais plants and correspond very nearly to the description of N. Kalmiana. The inner sepals of both these as well as those at the mouth of Bloody run are bright purple in the center with yellow edges. — While those at the Park house are entirely yellow & green without any purple —

I visited the Park Marsh since the 1st of September when I found the leaves all floating and not nearly so numerous as in the summer. The summer leaves have all died away and the later growths are all floating. Both they exhibit the same broad sinus and nearly acute petiole as when emersed.

I did not examine the petals but they can be examined as well if not better dried them when fresh as I could hardly draw the line of demarkation between them and the anthers. — Neither could I destinguish the difference in the berries that are laid down in the books. Some of both kinds are partially and others entirely without grooves to the base.

Please let me know if you get them in good order. —

Most Respectfully yours.

P.S. Our Austin went to take observations on the eclipse at St Joseph's I told him by all means to call on you as it would be very little out of his way in returning. did he do so?

Yours J. M. S.

When is Pary coming home again? and have you yet received any Cactaceae from Scholl?

Detroit Oct 24th 1865

(Grand Marais) Nos of the plants.

No(1) Nuphar July 4th 1865. = I suspect I made a mistake in the Label it should be I think "Marsh near Park House" instead of Grand Marais. —

No(2) Leaf Nuphar Grand Marais July 4th 1865

No(3) Leaves Nuphar Grand Marais July 23rd 1865.

No(4) Leaves Nuphar Grand Marais July 26th 1865

No(5) Leaf Section of fruit flower Nuphar Grand Marais July 26th 65

No(6) Sections young fruit flowers of Nuphar Grand Marais July 26th 1865

No(7) flowers Nuphar Grand Marais July 23rd 1865

No(8) flower of Nymphaea Grand Marais July 26th 1865

No(10) Rhizoma leaf & flower of Nymphaea Grand Marais

No(11) Rhizoma leaves young flower Nymphaea Grand Marais July 4th 65

No(12) Leaves of Nymphaea I think they were gathered at the Grand Marais but am not certain - the label was lost.

No(13) Leaf & flowers Nuphar Belle Isle July 24th 1865

No(14) Leaves Nuphar Belle Isle July 24th 1865

No(15) Flowers & young fruit Nuphar mouth of Bloody run July 18th 1865

No(16) Leaves Nuphar mouth Bloody run July 18th 1865

No(17) Leaves of Nymphaea mouth Bloody run July 18th 1865.

No(19) Leaves Nuphar mouth Bloody run

No(18) flowers Nymphaea mouth Bloody run

No(20) Leaves Nuphar Marsh near Park house July 23rd 1865

No(21) Flowers Nuphar Marsh near Park house July 23rd 1865

No(22) Fruit nuphar near Park house July 4th 1865

No(23) Leaf nuphar Marsh near Park house July 4th 1865

No(24) Leaves Nuphar Mays creek July 17th 1865

No(25) flowers & young fruit nuphar Mays creek July 17th 65

No(26) Leaves Nymphaea Mays creek July 17th 1865

No(27) Sagittaria Simplex Belle Isle July 24th 1865

No(28) Sagittaria heterophylla Grand Marais July 26th 65

No(29) Sagittaria heterophylla Belle Isle July 27th 1865

No(30) Sagittaria variabilis Belle Isle July 27th 1865

No (31) Anachari Canadensis –
No (186) Naias flexilis Bloodgrass July 18th 1865
(~~Heart~~) (Means) Potamogeton praelongus Hospital Dock July 24th 1865
(N) Pot. Lucens Grand Marais July 23rd 1865
(L) P. Lucens Marine Hospital Dock July 24th 1865
(O) P natans Grand Marais July 23rd 1865
(1866) P. compressus Marine Hospital Dock July 24th 1865
(Obs.) P. Pectinatus Main Hospital Dock July 24th 1865
(E.M.) mem. P. pectinatus but appears deffernt to me
(Net) P. pusillus? Grand Marais July 1865
(Lake) Zannichellia palustris Hospital Dock July 30th 1865
(Sun) Ceratophyllum!# Mouth of Bloody run July 18th 1865
(N.) Chara Marine Hospital Dock July 24th 1865
(H.) Schollera
(Neg. Potederia

The plant I sent you some days ago wet in letter with a print of Nymphaea and called "Nitella" I think is the same as this – I never saw the nitella –

P.S. compare closely the leaves of No 1) and No (22) I have 220 duplicate of No 1

Sparganium?
Simplex

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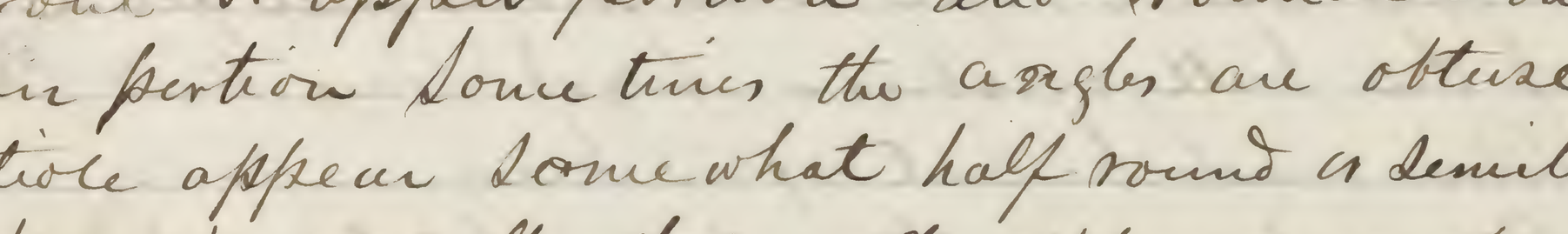
Rec'd Nov 16 1865
Mar Sam Dy

Detroit November 13th 1865

Dear Dodon

All the flowers of the Nuphars I collected at the Marsh near the Park house were yellow without the least bit of a red stain. All the specimens were 6 sepaled except one which was 5 sepaled and since I found no other I have thought that it might have proved abortive from the effects of insects. The petioles are stout & nearly terete. Many of the leaves here are wider than long measuring from the petiole at the top of the sinus and leaving out of the measurement the divergent lobes. In the Spring and Summer the leaves are all erect & emerged. These all die away in August and are followed by a growth of leaves which are floating. These floating leaves have the divergent lobes and all the characters of the emerged & erect ones.

I found apparently the same species at Mary's Creek with large nearly terete petioles erect & divergently lobed leaves with the sepals sometimes if I remember rightly tinged with red. Those obtained at the mouth of Bloody run & the Grand Marais with long obtuse lobed floating leaves (even in shallow water they are always all floating) The leaves are always longer than wide with rounded or obtuse approximate or even sometimes overlapping lobes. The leaves are rather fleshy. The petioles are stout but always angled on the front or upper portion and rounded on the back or lower portion sometimes the angles are obtuse making the petiole appear somewhat half round or semiterete. ○ but most generally this is the appearance of a section of the petioles #○ The flowers are always 6 sepaled and deeply tinged with red at the base. The one found at Belle Isle differs only from that at the Grand Marais and Bloody run by the leaves being thinner and



Isle Dieu Mich May 20
very early
to procure
especially those
growing in
deep water

and the petioles quite slender At Belle Isle however I found a single flower bearing 3 sepals the sepals are stained with red at the base like those at the grand Marais & Bloody run but among all I do not remember to have seen the stamens or stigma stained with red but I may be mistaken in this as my attention was not directed specially to this fact when my specimens are fresh I have never seen the N. Kalmiana but I find on reference to Torrey & Gray's flora & Gray's Manual that it essentially a N. Lutea being 5 sepaled with a beaked fruit not ribbed & grooved like ours. The sections of petioles I sent you were taken from the stem itself as seen in fig 3 those embraced in the brackets from the same stem beginning with the base where it is winged and so on repeated every few inches to the top. Without the assistance of the wind I can smell more than a marked variety between the N. advena which I take to be the one at the park house marsh and those at Belle Isle Bloody run & the Grand Marais. They grow densely by the acre at Park house while at the other localities they occur only in patches & generally small at that which besides the difference in erect & floating leaves gives their habit a very dissimilar appearance. If I live another year I will attend to them in their growing state more carefully and in the mean time I hope our Moses will find his way out of the bull rushes - if not some kind Pharoahs daughter must be sent after him

Isle Dieu Mich May 20
very early
to procure
especially those
growing in
deep water

Yes Nymphaeas are
Nymphaeas odorata
I may get some this
season

Yes Nymphaeas are

Yes Nymphaeas are

Yes Nymphaeas are

Rec Nov 26th
Ans Dec 22

U. S. Fish Com.

Detroit Nov. 23rd 1865

Dear Doctor.

After sleeping over my impressions with regard to the erection of the flowers of Nuphar out of the water I have been associating my experience with them & the Nymphaea. The flowers of Nymphaea stand very little above the surface but as soon as they pass away and young fruit is formed the peduncles are recurved so as to bring the fruit entirely under water and it was with difficulty I could get young or old fruit of Nymphaea. It is entirely different with the Nuphars. After flowering the fruit always remains at the surface but not standing out of the water. — I stated yesterday that it was my impression the flowers of the Nuphars floated but since I come to remember that the fruits are always floating near the surface my better impression is that the flowers are elevated above the surface.

How is it with your Nymphaea? It is my opinion that our 2 species are alike in this respect.

Of one thing I am certain & that is that the peduncles of the slenderest petioled variety we have are very stout much stouter than the petioles

Most Respectfully Yours John M. Bigelow

P. S. I am an old backwoodsman and if my letter does not amount to much it will do to put upon the brush heaps to keep the fire burning

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

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Rec'd Nov 24th
Ans Dec 22

Detroit Nov 21st 1865

Dear Doctor.

I send by mail today some root=
=stalks of our Asphan collected at three different localities. — Only one of them is quite fresh having been collected last sunday. I send one in brown paper another in a fragment of the Detroit Free Press & the third in a peice of the N.Y. World. I have noted the locality & kind of paper of each in my note book so that I can readily refer to each without confusion. I do not send their localities now to see if you can compare your St Louis A. advena with my Detroit advena

The roots & stems are very spongy & porous and shrivel very much on drying when their specific destinction are not nearly so manifest as when in the fresh state. It seems to me that there is no greater difference in the wood & bark of the White & Red oaks, than there is between the A. advena & A. variegatum

You say "I could not have compounded the fruits" did you mean to put after it an interrogation point! Well if you only knew what trouble I had in trying to dry them without moulding, how I laid them on papers opened them to give them air, changed them from one

position to another & exposed them to the ravages of
the Shell Oven in the Kitchen Loft you will excuse
me for saying that they could possibly have been confounded
although I tried my best to keep the proper labels attached
to them All my ripe capsules except a single one were
sent to you & Dr Gray. I wish you would write to him &
find out if I sent him any Sysirinchium seeds. I enclose
a few immature seeds which I know were collected at Belle
Isle. The large seeds are labelled as the Park house marsh
plants, but as I said before they may have been disturbed
and come from one of the other localities. I wish it were
possible to get the seed again this winter from the Park house
Marsh. — With regard to the dissection of the flowers
out of the water I can not answer with Certainty my im=
pression however is that they both barely rise to the surface
of the water. There were some plants of S. variegatum
growing at Bloody run which were not in the water last
summer but they did not flower like those in the water.

Has Dr Torrey returned from California?

Most Respectfully yours. John M Bigelow

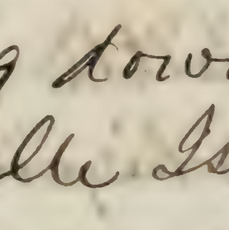
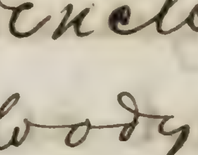
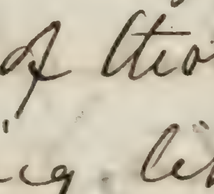
P. S. I have some large specimens of the root stalks when they become
so dry & light as to come within the limits of mail weight
which is 4 pounds I can send them if you need them.

Rec'd Jan 4
Ans Jan 7

Detroit January 1th 1866

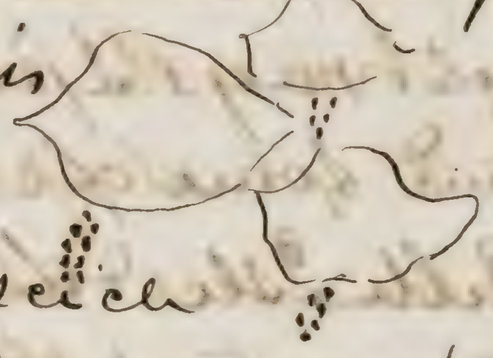
Dear Doctor. Two holidays coming together gives me an excellent opportunity of answering your last letters. 1st Let me answer some of your queries. "Do the different Kinds mix in the same marsh?" No. 1 as far as my observations extend - but then you must remember the localities I have visited are very limited The "Grand Marais" or grand marsh at the mouth of Connors Creek is a vast one extending from the river up to the point where I made my collections more than a mile and then up & down the River probably 2 miles or more. It is very probable that the two Kinds grow there but I saw only the one. The Park Marsh covers an area of 50 or a hundred acres and extends also to the river but I only collected at the head where the whole extent of the Marsh is filled with the Nuphars so thickly with its emerged leaves (in the summer) as to hide the water when at a little distance from it. In the Autumn when I visited it again the leaves were not so numerous and were all floating. I saw but the one Kind here but I did not visit that part extending down to the river.

Mays Creek Bloody run & Belle Isle are only small localities & had but one Kind at each place.

With regard to the stigmas and stigmatic rays I find quite a marked difference. Enclosed I send some of each locality The rays of those at Bloody run Belle Isle & the Gr Marais something like those of N. Luteum extend nearly to the margin of the disc but the edges of the disc are not crenated like the Luteum thus  The disposition to crenature by the undulation of the margin is more perceptible in the fresh than in the dry state and appears to be nearly alike in all our plants. The Park Marsh plants is like your N. advena  The one at Mays creek is like this  the rays apparently uniting at the center.

I must collect the Rhizoma of the Mays Creek plant

I am not certain but I think the sepals of the May's creek plant are tinged with red and Paine writes that he think, he has seen one N. variegatum in New York but thinks that the N. advena sometimes has the flowers tinged with red. I send some seeds from a half grown pod which I know was collected at the grand Narrows they are small subglobose but look very much like the May's creek seed you send me. I notice a suture from the hilum down one side of the small seeds not observable in the large ones. Is it in consequence of their young state? Well I did catch you on the rhizomes! I send you some more. That in the Brown paper was from Belle Isle that in the Free Press from Bloody run and that in the N.Y. World from the Park Marsh I find the scars to vary very much both in size and shape even in the same root. I find that in the Bloody run & Belle Isle rhizomes the upper surface (with the exception of the leaf scars) is perfectly smooth while in the Park Marsh rhizome at the base of each scar there are 5-9 little fimbriated rootlets and in the older portions of the rhizome where the rootlets have drop away the marks are very plain generally in two rows something like this



The roots from the lower surface of the rhizome are more numerous from the same fascicle (situated also at the base of a scar) in the Park Marsh plant than in the others. The incipient foliage of the Park marsh is altogether coarser than the others. "Is there any difference in the depth of water of both species"? I think not my specimens were mostly collected in shallow water and the water becomes low may become dry land. At Bloody run some plants grow on the dry land with rhizomes & lobing of the leaves exactly like those in the water with floating leaves excepting that the leaves were smaller They do not flower or fruit.

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At Connors Creek some of my specimens grew in 4 or 5 feet of water but the creek sometimes becomes so dry as to be cultivated I am told.
The section of the Belle Isle petiole was not entirely at the base of the leaf is the reason it is not fringed like the others. In looking over and soaking some of my specimens I find a Grand Marais flower with 7 sepals and I remember very distinctly that a Belle Isle specimen had 8 large sepals so that in characterizing your Brown list of nuphar by the sepals it would be well to say
1 N. Luteum 5 sepals 2 N. pumilum 5 sepals 3 N. advena 6 sepals
4 N. variegatum 6-8 sepals 5 N. polysepalum 9-12 sepals
If it were possible I would get you some ripe seed but I fear it is not. The pod I observe separates & falls from the torus very early I suspect before the seed is perfectly mature. —
Whether it was the fault of the "Children" or not I give up and believe you are perfectly right about my transposing the tickets of Park Marsh & Connors Creek on my Nuphar fruits. — I laid them on open papers with loose labels in the Kitchen loft to dry and in changing them from time to time to prevent them from rotting & moulding it was the easiest thing in the world for the tickets to get displaced. —
If the flowers of N. Variegatum are always tinged with red and N. advena never, then the name of the species you propose is good & very appropriate. — But if N. advena is sometimes red then it appears to me not so appropriate. — If you have not yet printed it under this name I would find out whether advena sometimes has this character before adopting it. — I copy what Paine writes with regard to it.

Turn over

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"As to nuphar I fully believe I have seen some plant often in the waters & bays of Lake Ontario. I did not save any of them but remember wondering sometimes if they might not be N. Lecta or Cu. they looked so different from either N. advena or N. Kalmiana. I must remark however that old flowers of N. advena frequently are partly sunk with us in the valley of the Mohawk". If it is so common east then its being confounded with N. advena is from sheer neglect & neglectum would be a very good name

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

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Rec'd Febr 2d
Ans Febr 4

Detroit Jan'y 30th 1866

Dear Doctor Engelmann

Are you out of the Pushes O!
dear Doctor.[2] — I wrote some 3 or 4 weeks ago to
Dr Torrey for some seeds of a Stephan collected at
Devils river Texas labelled "Stephan Advena in fruit"
the collection of which was credited to me — but I have
forgotten all about it. Is the good Doctor sick that
he does not answer! I should think it would be
interesting — if nothing else ~~else~~ results from it — by
making a comparison of its seeds with our varieties
or species here. — I see also by the books a
Southern species called S. Sagittifolia which is so
anomalous in its upright root-stake and apetalous
flowers as to require an amendment of the diagnoses
of both the genus & order. Can't you contrive to
get a good & full suit of specimens of it through
Porcher or some other Southern Botanist?
If you could do so I should not be at all sur=
prised if you were to find characters distinctive
enough to form a new Genus. It seems to be
a sort of a shy customer and may be hard
to get a hold of Still I should think it would be
worth trying for.

You seem to misunderstand me ~~about the name~~
about the name you propose for the new variety
we find here. I only objected to it in case
the common S. advena has the same variegation
in the flowers that ours has which I suspect sometimes
is the case — If the advena never has the red
coloring that ours has then no name could be more
appropriate or handsomer than the one you pro=
pose. But if it has I should prefer some other name

If the seeds are always nearly globose while the aroma is distinctly pyriform you might adopt some Greek or Latin ~~pear~~ breaker expressive of the form such as Sphaerospermum or something like it. I should much prefer a truly expressive name to a personal one

Is Dr. Parry at Davenport Iowa?

And have you received any Cacti lately from Mex. Schott?

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Most respectfully Stry yours

John M. Bigelow

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Rec'd Feb 20
Ans'd Feb 13

U. S. Lake Survey
Detroit Feb 12 1866

Dear Doctor: Enclosed I send an abstract of the Barometer & Thermometer about the 8th of January 1866 at ~~Sault~~ Sault de Ste Marie on our Station, as I have received the Monthly Sheets. The Barometer at our Station has been from 2 to 3 tenths of an inch higher than ever known before. —

I wish you would send to Dr. Torrey for some of the seeds of that mushroom I gathered at Devils River when on the Boundary Survey. I have not heard from him yet, & my letter must have been miscarried or he is sick or something

I see by Winchells Report
that N. Kalmiana grows at
Saginaw Bay which can be
reached by a rail road ride of
a few hours from here —
I think I will take a Journey
up there next Summer if
I can obtain my health.
It would be delightful Sport if
you could spend a few days in
this vicinity next Summer
with us?! A day & a night
ride would bring you here
from St Louis.
We have some beautiful
little inland ponds & lakes
about Pontiac only a short
distance from Detroit

I intended to have visited
them last Summer but
missed it.
I can supply Leam the paternity
of A. Variegatum in your hands
I suppose you will publish the
description in Syour transactions
When you do so please send
me a copy.

Good bye for the present

Most. Respectfully Yours,

D. W. Bigelow

MISSOURI BOTANICAL GARDEN
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Rec'd March 28

Detroit Mich March 23rd 1866

Dear Doctor

Yours of the 13th inst is at hand.

It occurred to me as soon as I saw Paines description of Nymphaea tuberosa that he had been anticipated by the ubiquitous Rafinesque. In his Medical Flora Vol 2nd P. 45 after giving a description of N. Odorata he gives the following description of 3 new species. —

"1st N. Rosea Raf. Leaves orbicular, split at the base, lobes divaricate, acute, lower surface red, petals rose colored. In New York, Ohio &c. With smaller flowers, less odorous. - 2nd N. Maculata Raf. Leaves orbiculate, sinuate, dentate, base cordate, lobes obtuse, a brown central spot on the leaves, petals White. In Canada, and New York, near Lake Ontario. Flowers nearly inodorous smaller, with many narrow obtuse petals.

3rd N. Spiralis (Raf. N alba Mx. & N. Odorata Elliot) Leaves orbicular, emarginate, base split, colorate, lobes divaricate, obtuse, petioles & scapes spiral, calyx four leaved, equal to the Corolla. In the Southern States. Flowers White, smell strong." The dark spot on the center of the leaf I find here is not invariable or constant and I do not know where Rafinesque finds the teeth. I notice that in shallow waters our plants frequently rise above the surface like the Nelumbium

My Nuphars collected in Ohio are not here and of the Nymphaeas here I have collected none. I will do so in the spring if it will be in time for you. Several of the young men who go out into the field collect plants I examined Jr. Hoods Collections but he had not Nymphaeas among them. I will look at Dr. Wheelers collections soon and if he has it I will get him to send it to you.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

My botanical life is in a nut shell — and for the want of Moisture or something else has not vegitated yet. About 1839 or '40 I began to collect the plants in my neighborhood (Lancaster Fairfield Co. Ohio) In Company with Dr. Hoy now of Dubuque Iowa we made out a Catalogue of them which was printed in the Transactions of the State Medical Society of Ohio in the year 1841

In consequence of this humble effort I got the name of botanist without deserving it. Mr. Ewing in Organizing the Mexican Boundary Commission gave my name to Mr Bartlett the Commissioner as Surgeon to the Commission, with the understanding that I was to gratify my penchant for collecting in those regions. You Know what I did there, though our Collections were sent to Dr. Torrey. Having been sometime pleasantly associated with Lieut Whipple, while on the Boundary, When the Government soon after my return organized several parties for the explorations of a Rail road route to the Pacific ocean, Capt Whipple being at the head of a party for exploring the line near the 35th Parallel, ~~he~~ invited me to go with him as Surgeon & botanist, which was accepted. The results of my labors on this Expedition was published in the 4th Volume of the Pacific Rail road Explorations. That's all.

I was born in Vermont on the Green Mountains 23rd June 1804 —

I do not think aneeps would be as appropriate as variegatum. May not the shield like appearance of ~~the~~ a section of the petiole afford a name as appropriate as that of aquilina for our Pteris? It appears characteristic enough as between the advena and our plant, but how it will compare with other species I do not know

Yours most Respectfully yours.

Dr. Engelmann

J. M. Bigelow